

The self-describing file **100** may use any of these types of systems or the like for enabling data utilization, as described herein. A server **720** may provide the self-describing file **100** and/or methods for creating or modifying the self-describing file disclosed herein to clients. As one example, the server **720** may be a web server providing the self-describing file **100** and/or the methods for creating or modifying the self-describing file disclosed herein over the web. The server **720** may provide the self-describing file **100** and/or methods for creating or modifying the self-describing file disclosed herein over the web to clients through a network **715**. By way of example, the client computing device **718** may be implemented as the computing device **500** and embodied in a personal computer **718a**, a tablet computing device **718b** and/or a mobile computing device **718c** (e.g., a smart phone). Any of these embodiments of the client computing device **718** may obtain content from the store **716**. In various embodiments, the types of networks used for communication between the computing devices that make up the present invention include, but are not limited to, an internet, an intranet, wide area networks (WAN), local area networks (LAN), and virtual private networks (VPN). In the present application, the networks include the enterprise network and the network through which the client computing device accesses the enterprise network (i.e., the client network). In one embodiment, the client network is part of the enterprise network. In another embodiment, the client network is a separate network accessing the enterprise network through externally available entry points, such as a gateway, a remote access protocol, or a public or private internet address.

Additionally, the logical operations may be implemented as algorithms in software, firmware, analog/digital circuitry, and/or any combination thereof, without deviating from the scope of the present disclosure. The software, firmware, or similar sequence of computer instructions may be encoded and stored upon a computer readable storage medium. The software, firmware, or similar sequence of computer instructions may also be encoded within a carrier-wave signal for transmission between computing devices.

This disclosure described some embodiments with reference to the accompanying drawings, in which only some of the possible embodiments were shown. Other aspects may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments were provided so that this disclosure was thorough and complete and fully conveyed the scope of the possible embodiments to those skilled in the art.

Although the embodiments have been described in language specific to structural features, methodological acts, and computer-readable media containing such acts, it is to be understood that the possible embodiments, as defined in the appended claims, are not necessarily limited to the specific structure, acts, or media described. One skilled in the art will recognize other embodiments or improvements that are within the scope and spirit of the present disclosure. Therefore, the specific structure, acts, or media are disclosed only as illustrative embodiments. The disclosure is defined by the appended claims.

What is claimed is:

- 1.** A method for calculating properties of an object defined by a first application, the method comprising:
  - opening, by a second application, a self-describing file created by the first application, wherein the self-describing file comprises:
    - a first property of the object; and

a second property of the object, wherein the second application does not natively support the second property of the object;

receiving an indication that the second property of the object is dependent on the first property of the object; receiving a modification to the first property of the object; recalculating a value of the second property of the object based upon the indication that the second property of the object is dependent on the first property of the object; and

storing the file, wherein the stored file comprises the recalculated value for the second property of the object.

**2.** The method of claim **1**, wherein the self-describing file further comprises a formula for calculating the value of the second property of the object.

**3.** The method of claim **2**, wherein the formula defines a relationship between the first property and the second property.

**4.** The method of claim **2**, wherein recalculating the value of the second property of the object based upon the indication that the second property of the object is dependent on the first property of the object comprises recalculating the value using the formula.

**5.** The method of claim **1**, wherein the indication that the second property of the object is dependent on the first property of the object is defined by an extension element associated with the self-describing file.

**6.** The method of claim **1**, further comprising:

receiving an indication that a third property of the object is dependent on the second property of the object; and recalculating a value of the third property of the object based upon the indication that the third property of the object is dependent on the second property of the object.

**7.** The method of claim **1**, further comprising displaying at least one native property of the object by the second application.

**8.** The method of claim **1**, further comprising recalculating a native property value based upon a second property value of the object.

**9.** A computer storage memory device encoding computer-executable instructions that, when executed by at least one processor, perform a method for calculating properties of an object defined by a first application, the method comprising:

opening, by a second application, a self-describing file created by the first application, wherein the self-describing file comprises:

a first property of the object; and

a second property of the object, wherein the second application does not natively support the second property of the object;

receiving an indication that the second property of the object is dependent on the first property of the object; receiving a modification to the first property of the object; recalculating a value of the second property of the object based upon the indication that the second property of the object is dependent on the first property of the object; and

storing the file, wherein the stored file comprises the recalculated value for the second property of the object.

**10.** The computer storage memory device of claim **9**, wherein the self-describing file further comprises a formula for calculating the value of the second property of the object.

**11.** The computer storage memory device of claim **10**, wherein the formula defines a relationship between the first property and the second property.

**12.** The computer storage of claim **10**, wherein recalculating the value of the second property of the object based upon